CLAIMS

1. A piezoelectric device in which a first electrode layer, a piezoelectric layer and a second electrode layer are laminated on a substrate in this order,

said piezoelectric layer being made of aluminum nitride and/or zinc oxide, and a degree of dipole-orientation of said piezoelectric layer being 55% or more.

2. The piezoelectric device as set forth in claim 1, wherein said first electrode layer is made of any one of TiN, $MoSi_2$, Cr, Fe, Mg, Mo, Nb, Ta, Ti, Zn, Zr, W, Pt, Al, Ni, Cu, Pd, Rh, Ir, Ru, Au and Ag.

3. The piezoelectric device as set forth in claim 1, wherein the first electrode layer has a lamination structure comprising a contact layer that contacts with the substrate, and at least one conducting layer formed on the contact layer.

4. The piezoelectric device as set forth in claim 3, wherein a surface layer of the conducting layer is an oriented metal having a crystal face whose atomic arrangement is identical with an atomic arrangement of (0001) face of aluminum nitride and/or zinc oxide, and in which a distance between atoms is substantially identical with a distance between atoms on (0001) face of aluminum nitride and/or

zinc oxide, and the crystal face is parallel to a face of the substrate.

5. The piezoelectric device as set forth in claims 3 or 4, wherein the surface layer of the conducting layer is made of a metal whose electronegativity ranges from not less than 1.3 to not more than 1.5.

6. The piezoelectric device as set forth in any one of claims 3 through 5, wherein the surface layer of the conducting layer is made of any one of TiN, $MoSi_2$, Si_3N_4, Cr, Fe, Mg, Mo, Nb, Ta, Ti, Zn, Zr, W, Pt, Al, Ni, Cu, Pd, Rh, Ir, Ru, Au and Ag.

7. The piezoelectric device as set forth in any one of claims 3 through 5, wherein the surface layer of the conducting layer is made of any one of an oriented W layer, an oriented Pt layer, an oriented Al layer, an oriented Ni layer, an oriented Cu layer, an oriented Pd layer, an oriented Rh layer, an oriented Ir layer, an oriented Ru layer, an oriented Au layer and an oriented Ag layer, and (111) face of the surface layer is parallel to the face of the substrate.

8. The piezoelectric device as set forth in claim 3, wherein said at least one conducting layer are constituted of

a first layer made of any one of Ti, Cr and Ta formed on the contact layer, and a second layer made of any of Pt, Au and Ag formed on the first layer.

9. The piezoelectric device as set forth in claim 3, wherein said at least one conducting layer are constituted of a first layer made of either Ti or Cr formed on the contact layer, a second layer made of either Pt or Ni formed on the first layer, and a third layer made of Au formed on the second layer.

10. The piezoelectric device as set forth in any one of claims 1 through 9, wherein the second electrode layer has a lamination structure having a plurality of conducting layers.

11. The piezoelectric device as set forth in any one of claims 1 through 10, wherein the substrate is made of glass, metal, plastic or sintered ceramic.

12. The piezoelectric device as set forth in any one of claims 1 through 10, wherein the substrate is made of metal or plastic whose thickness ranges from 5 to 100μm.

13. A method for fabricating a piezoelectric device, comprising the steps of:

(i) forming a first electrode layer on a substrate;

(ii) forming a piezoelectric layer on the first electrode layer; and

(iii) forming a second electrode layer on the piezoelectric layer,

in the step (ii), the piezoelectric layer being made of aluminum nitride and/or zinc oxide, and whose degree of dipole-orientation is 55% or more.

14. The method for fabricating a piezoelectric device as set forth in claim 13, wherein the step (i) includes sub-steps of:

(I) forming a contact layer that closely contacts with the substrate, and

(II) forming at least one conducting layer on the contact layer.

15. The method for fabricating a piezoelectric device as set forth in claims 13 or 14, wherein, in the step (i), a film is fabricated by metal at a temperature ranging from not less than room temperature to not more than 150°C.

16. The method for fabricating a piezoelectric device as set forth in any one of claims 13 through 15, wherein the step (i) is carried out through a physical vapor deposition process.